

## **ABSTRACT OF THE DISCLOSURE**

A culture vessel for biological samples contains a plurality of individually addressable electrodes and a means of maintaining these electrodes at various potentials, whereby cells may be cultured in a wide variety of electric fields to rapidly assess the influence of field strength, frequency, or waveform on cell growth or inhibition, platelet adhesion, gene expression, or other responses of interest while maintaining an otherwise uniform culture environment for the cells. The electrode array may be formed on a rigid, reusable substrate or it may be disposable.

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